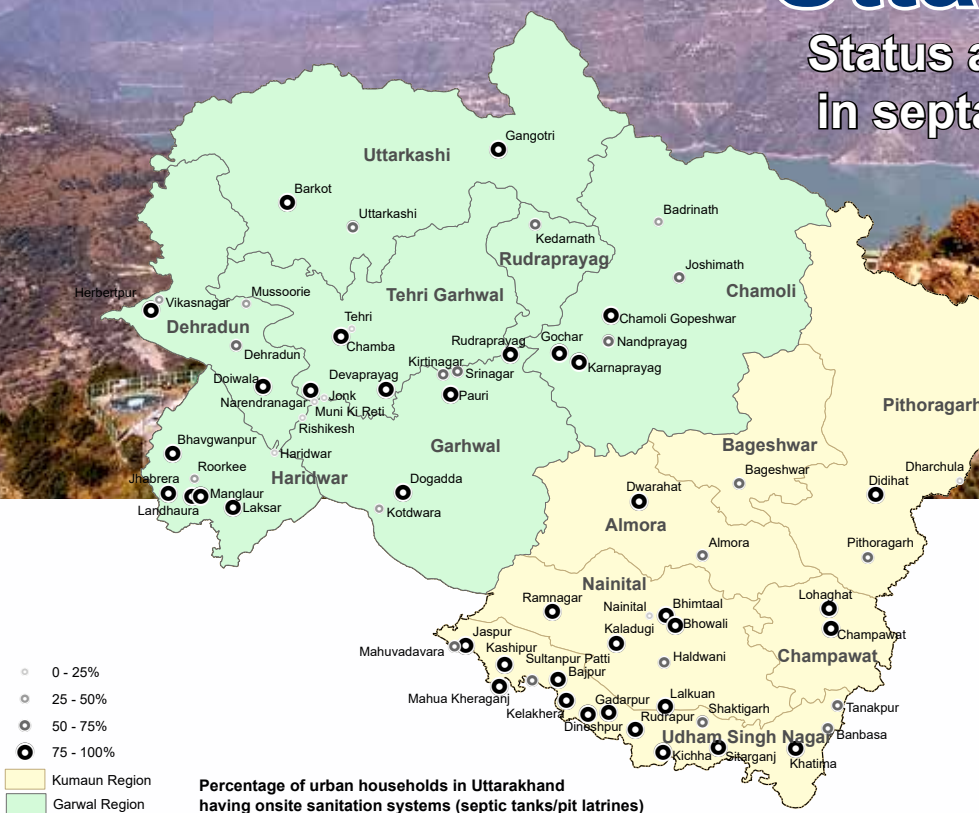


# Urban Uttarakhand

Status and opportunities in septage management



**78%** septage remains untreated in Uttarakhand and disposed off without any treatment endangering the natural environment as well as human health.



Urban population<sup>a</sup>

**30.5 lakhs**

(30.2% of total population of state)



Urban local bodies<sup>b</sup>

**90**

Nagar Nigam (8)  
Nagar Palika Parishad (41)  
Nagar Panchayat (41)



Percent hilly area<sup>c</sup>

**86%**

9 out of 13 districts are hilly and pose a significant challenge to Septage Management



Faecal sludge generation<sup>d</sup>

**722 KLD**



Current treatment through STPs<sup>d</sup>

**158 KLD**

(22%)

Septage generation	No. of ULBs
Below 4 KLD	53
4 to 10 KLD	22
10 to 50 KLD	12
Above 50 KLD	3



Total STP<sup>e</sup> capacity

**288 MLD**



Utilised STP capacity<sup>e</sup>

**116 MLD**

(60% unutilised)

Except **Tehri Garhwal** and **Haridwar** which have high piped sewer coverage, all other districts are largely served by septic tanks



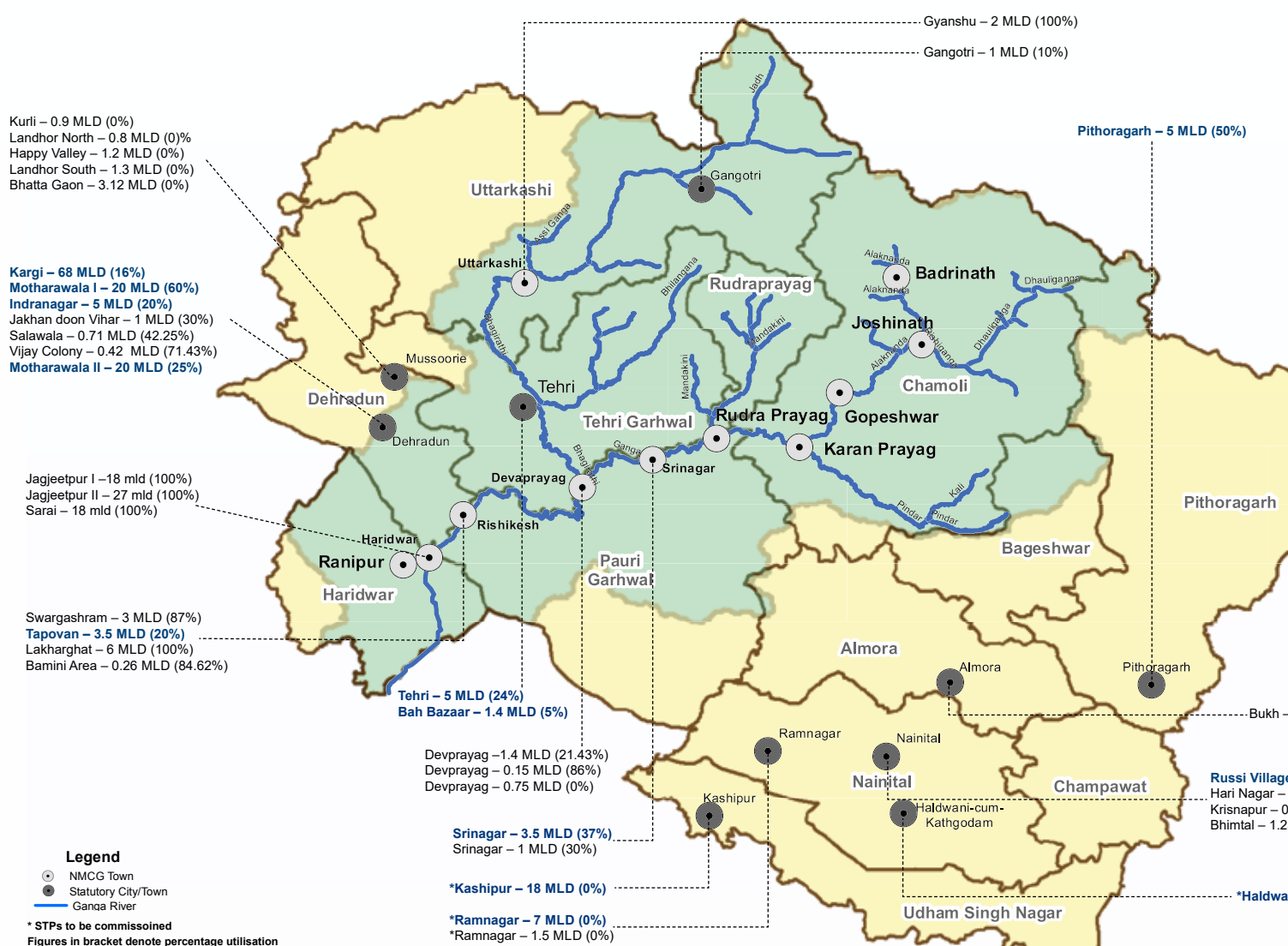
Challenges

- Smaller towns are completely dependent on septic tanks
- Limited service provisions for desludging septic tanks
- Limited land availability for setting up septage treatment facility
- Laying of sewer lines in the towns at higher altitude with steep gradient
- Lack of financial resources within the ULBs

MLD - Million Litre Per day  
KLD- Kilo Litre Per day

Source: a. GOI (2011). Census of India 2011. Household Table. Registrar General and Census Commissioner of India, Ministry of Home Affairs, New Delhi, India. b. Directorate, Government Of Uttarakhand, <http://udd.uk.gov.in/>, 2018. c. State Horticulture Mission, Government of Uttarakhand, <http://shm.uk.gov.in/pages/display/6-state-profile>, 2019 d. Total faecal sludge generation was calculated by multiplying population of all households as on 2018 with 76.25 - the faecal sludge generated in litres/capita/year (as per ISO:2470). e. Uttarakhand Peyjal Nigam and Jal Sansthan data.

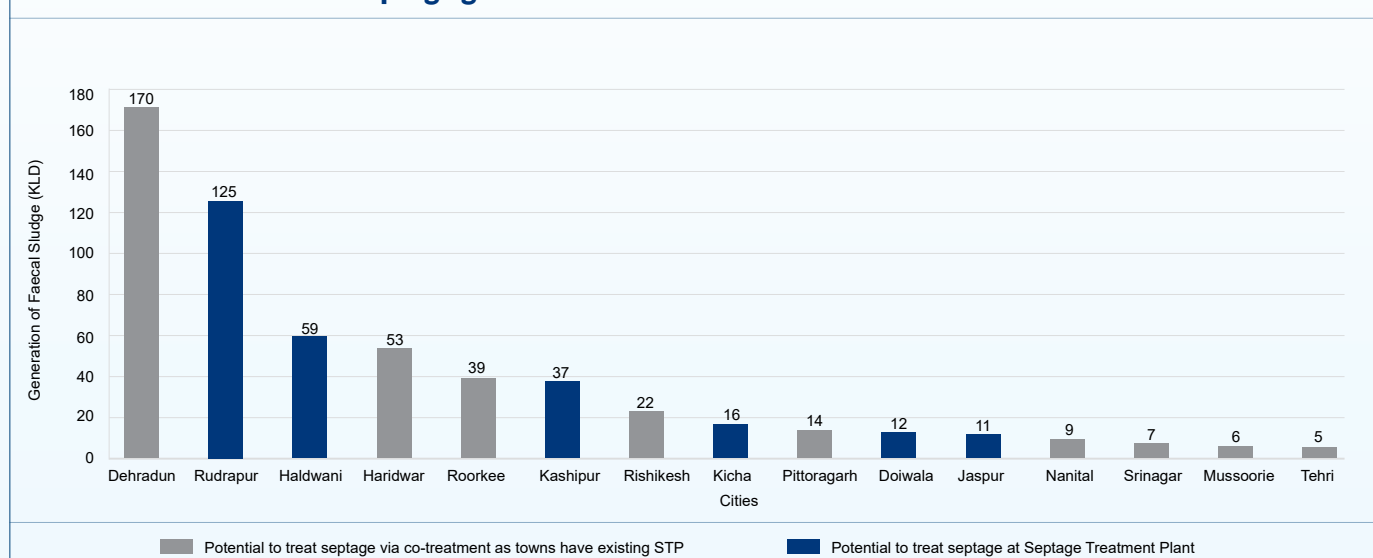
## Sewage Treatment Plants (STPs), Uttarakhand, 2018



Note: STPs highlighted in blue shows higher potential for co-treatment of septage due to under utilized STPs.

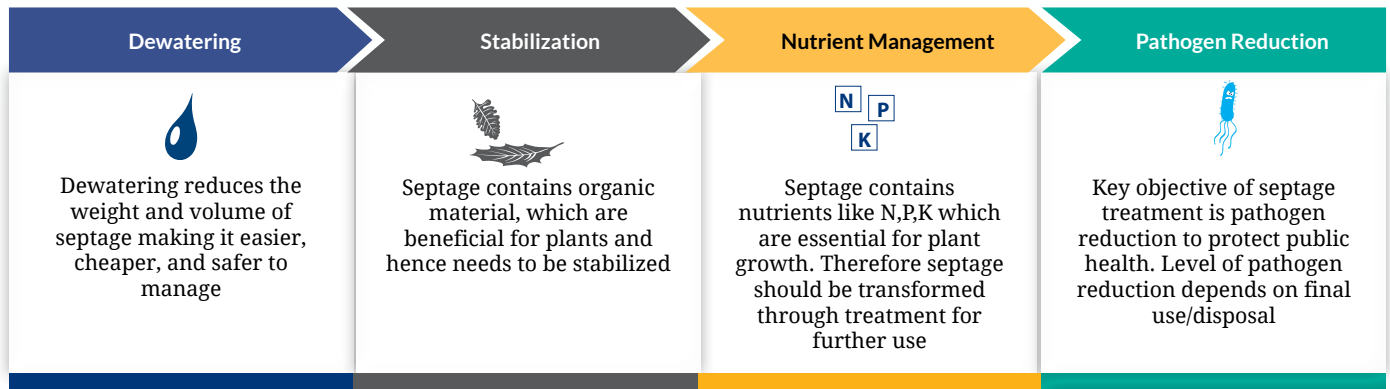
- 80% of Uttarakhand's total sewage treatment plant capacity caters to Dehradun, Rishikesh and Haridwar
- 9 cities mentioned below could explore co-treatment of septage at sewage treatment plant
- 6 cities could treat their septage via septage treatment plant
- 55 towns with septage generation less than 4 KLD need alternative septage treatment solution

## Septage generation in various towns of Uttarakhand



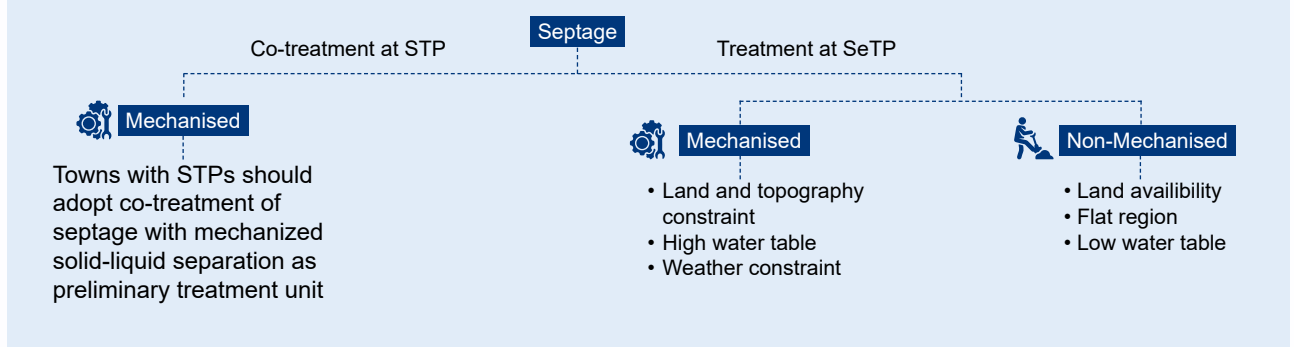
## Objectives of treatment

To reduce the pathogens to a safe level and to recover resources from the septage.

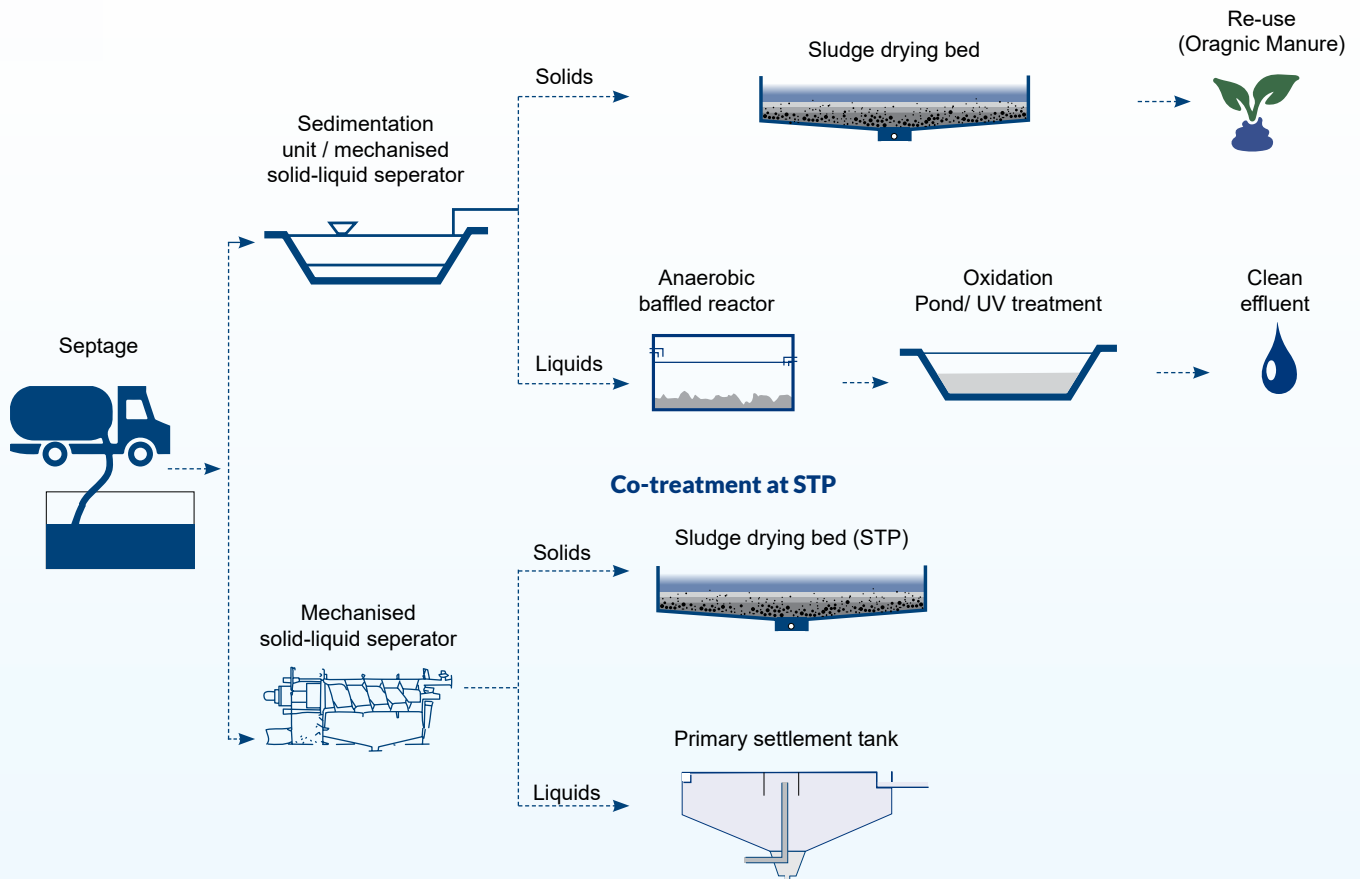


## Treatment options for Septage in Uttarakhand

The diagram depicts how septage can be treated in ways that are best suitable for the context of Uttarakhand.



## Septage Treatment Plant (SeTP)



## Operationalising septage management in Uttarakhand

- Protocol for septage management notified in May 2017
- State septage management committee (NIUA supported) established in August 2019

### State Level Advisory Body/ State Septage Management Committee

#### State Septage Management Committee

- Secretary, UDD: Chair
- Secretary, Peyjal Uttarakhand : Co-chair
- Director, UDD
- Managing Director, Peyjal Nigam
- Chief General Manager, Jal Sansthan
- NIUA representative

Technical Guidance on Co-treatment, SeTPs & Deep Row Entrenchment

Septage Protocol Rollout to ULBs/Parastatal

Investment Plan

Capacity Building Approach

Assessment

Implementation



### District Level Monitoring Committee



### Septage Management Cell at ULB level

- Executive body at ULB level for implementation
- Ensures the septage/effluent from individual or common septic tank and bio-digester is collected and appropriately treated before its safe disposal
- Power to impose penalty to individual, government body or private entrepreneur to enforce the protocol
- Identification and registration of individual septic tanks, community septic tanks and bio-digesters

## Protocol for Septage Management



**Provides regulatory framework** for construction, routine maintenance of septic tanks and bio digesters; transportation, treatment and safe disposal of septage



**Prescribes the actions** to be taken by the owners of the premises connected to septic tanks/bio-digesters and septage transporters to ensure compliance with their obligations



Provide for appropriate **inspection and enforcement mechanisms**



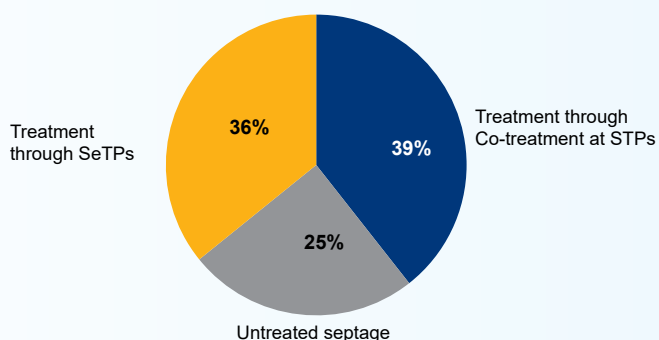
**Ensure cost recovery** on a sustainable basis for proper septage management



**Facilitate participation** of private and non-government sector in septage management

## Septage Treatment Potential via Co-treatment at STPs and SeTPs in Uttarakhand

- Out of 722 KLD of septage generated only 158 KLD is currently treated
- Unused STP capacity can be used to treat faecal sludge/septage which will increase the treatment coverage by 25-30% taking the treatment coverage to 286 KLD in Uttarakhand
- Treatment of septage via SeTPs will further increase the treatment capacity in Uttarakhand by 260 KLD (36%)



Sanitation Capacity Building Platform



National Institute of Urban Affairs

### National Institute of Urban Affairs

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